

**LOBOGYNIELLA TRAGARDHI, A NEW GENUS AND SPECIES OF
DIPLOGYNIID MITE ASSOCIATED WITH DAMPWOOD TERMITES
IN OREGON**

(ACARINA, DIPLOGYNIIDAE)

Gerald W. Krantz, *Oregon State College, Corvallis.*

While examining specimens of *Zootermopsis angusticollis* (Hagen) collected from a tree stump near Corvallis, Oregon, a number of mites were recovered, one of which was identified as belonging to the family Diplogyniidae Tragardh 1941. Further observation revealed the mite to be a representative of a new genus of the subfamily Diplogyniinae. The new genus resembles both *Lobogynium* Tragardh 1950 and *Lobogynioides* Tragardh 1950, but may be separated from the above mentioned genera through the use of the following key adapted from Tragardh:

1. Ventral marginal shields meet the tip of the ventri-anal shield at the posterior end of the hysterosoma *Lobogynioides* Tragardh 1950
 Ventri-anal shield triangular, apparently not extending to the posterior margin of the body 2
2. Sternal hairs II and III inserted near the posterior margin of the sternal shield, flanking sternal hair IV *Lobogynium* Tragardh 1950
 Sternal hairs II and III well removed from posterior edge of sternal shield and anterior to sternal hair IV *Lobogyniella* nov. gen.

Lobogyniella, nov. gen.

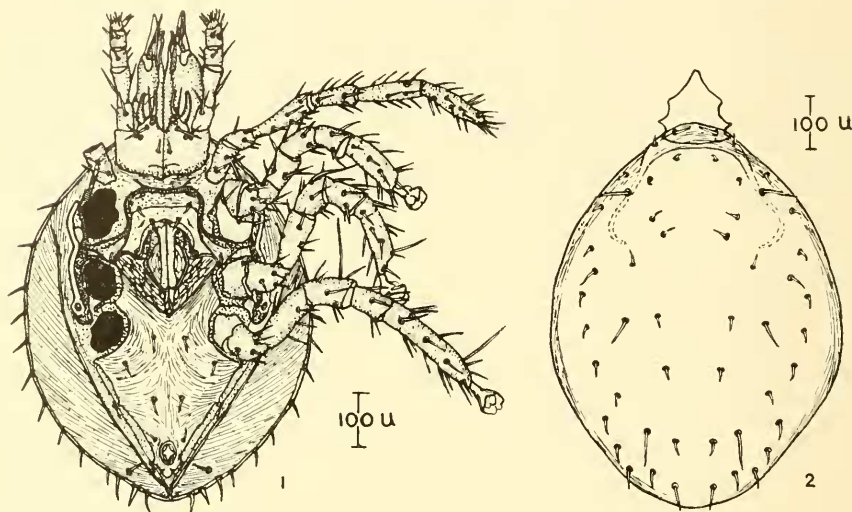
Metasternal shields with only the anterior and posterior extremities visible from beneath the lateral shields (Fig. 4). Posterior extremities of metasternal shields with a terminal hair and an adjacent pore. Lateral shields with large lateral lobes. Sternal hairs II and III not in a transverse line, well removed from posterior edge of sternal shield. Ventri-anal shield triangular and apparently not extending to the posterior margin of the hysterosoma.

Type species: *L. tragardhi*, n. sp.

Lobogyniella tragardhi, n. sp.

Female.—**Idiosoma:** length = 718 microns; width at insertions of coxae IV = 543 microns; idiosoma ovoid-elongate, its widest point being at the insertions of coxae IV. **Dorsal shield** (fig. 2) with 26 pairs of setae, most of which are quite short. Three pairs of setae are noticeably longer than the rest, these being the shoulder setae and two pairs of latero-interior hysterosomal setae. The shield is weakly striated over its entire surface but only obviously so along the lateral margin. Ventral side with coalesced anal, ventral, sternal and metasternal shields which, except for the placement of the sternal hairs and the striation patterns, are quite similar to Tragardh's *Lobogynium rotundatum* (Tragardh 1950). **Sternal shield** (fig. 4) with anterior projections, between which the two-tined **tritosternum** is inserted. Sternal hairs I are inserted on the anterior edge of the sternal shield near the median area of the forward projections. A pair of pores, opening exteriorly and adjacent to the setae, are placed on a small defined area with the latter. Sternal hairs II are inserted behind and

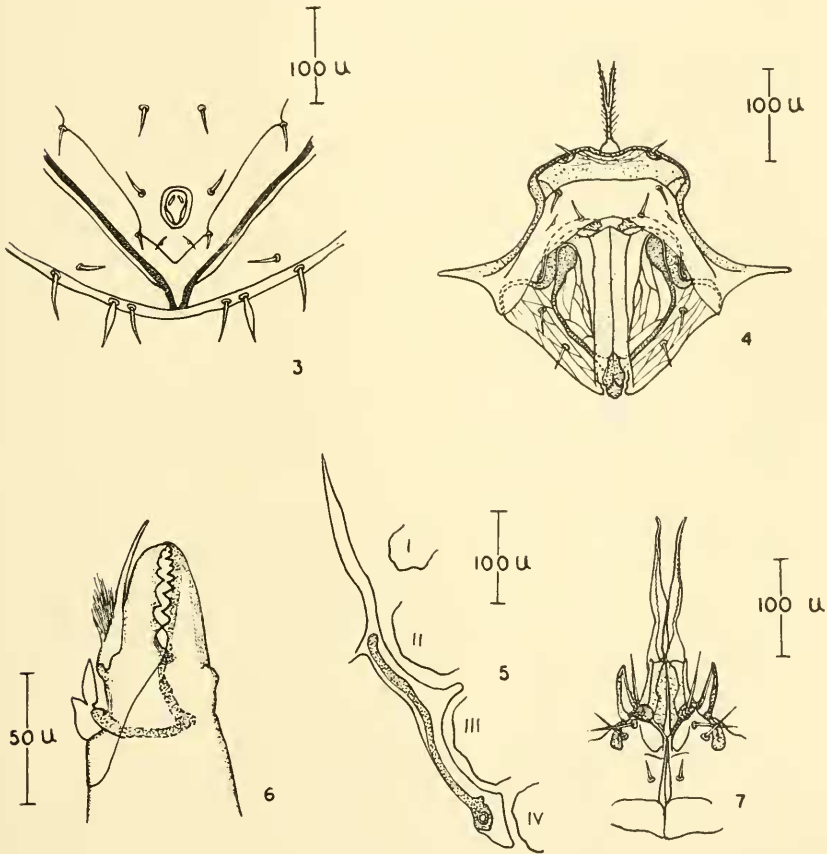
somewhat exteriorly to sternal hairs I. A pair of pores are located either in a direct line behind sternal hairs I and II, or interiorly to sternal hairs II. These pores are not located symmetrically on one of the specimens examined. Sternal hairs III are situated near the posterior edge of the sternal shield and are anterior to sternal hairs II. Laterally, the shield is elongated into two blade-like



Lobogyniella tragardi, n.sp., female. Fig. 1, ventral aspect; fig. 2, dorsal aspect.

prominences which extend between coxae II and III. Posteriorly the shield is deeply excavated, its lateral concavities all but covering the metasternal shields. **Metasternal shields** not fused at the midline, angling exteriorly and posteriorly to a narrow band. The sternal shield covers all but the anterior and posterior ends of the metasternals. A terminal seta and an adjacent pore are located at the widened posterior ends of the latter. The **lateral shields** (fig. 4) are bilobate, having both a lateral and an anterior protuberance. Two pairs of hairs are inserted on the posterior part of the shield, well away from the posterior margin. The anterior pair is located interiorly to the lateral lobes while the second pair is inserted midway between the first pair and the epigynal shield. The **epigynal shield** is triangular, the base being as wide as the two sides. The **ventri-anal shield** (fig. 1) is triangular, with its base extending toward, but not reaching, the end of the hysterosoma. The apex of the triangle has a pair of pores and a pair of short setae which are inserted on lateral prominences of the apex. Five additional pairs of setae are located on the ventri-anal plate, all of which are noticeably longer than those on the apex. One pair is lateral in position and is inserted on prominences which are nearer the base than the apex of the shield. The anal opening lies a little in front of the apex and is oblong in shape. The **ventral marginal shields** (fig. 1) are

separated from the ventri-anal shield by a wide groove toward the posterior end and a narrow cuticular fold anteriorly. The fold is a flap of cuticle extending the entire interior length of the marginal shield, ending just short of the margin of the body at the level of coxa II. The posterior grooves appear to be nothing more than the deeply infolded lateral edges of the ventri-anal shield



Lobogynicella tragardi, n.sp., female. Fig. 3, ventral aspect of posterior portion; fig. 4, sternal, lateral, metasternal and epigynal plates; fig. 5, peritreme and peritremal plate; fig. 6, lateral aspect of chela; fig. 7, hypostome.

which, under phase contrast, extend to the posterior margin of the body (fig. 3). The ventral marginals have one pair of setae which are lateral and posterior to the anal opening. The **stigmata** (figs. 1 and 5) are located exterior to a point between the insertions of coxae III and IV. The **peritreme** extends only as far as the middle of coxae II. A **peritremal plate** (fig. 5), on or near which the peritreme is located, extends anteriorly to a point in front of coxae I. **Legs I** are antenniform and are somewhat longer than legs II, III, and IV. Coxa II are

larger than those of the other legs. The claws and pulvilli of all but legs I are large and well developed. The **epistome** (fig. 1) is triangular, with two sets of projections on the lateral edges. The base is broadly joined to the propodosoma, attached well behind the anterior margin of the body. A flap or fold of cuticle appears to extend from the propodosoma over the base of the epistome, forming a partial hood. The latter may be either a natural development or the result of pressure exerted on the cover slip during mounting. The **chelicera** (fig. 6) bears, on the ventral side of the movable digit, a slender, slightly curved appendage which is somewhat longer than the chela. Attached to it are a series of hairs divided into three groups of three or four hairs each, the whole series being united toward the basal part of the appendage. Behind the articulating membrane is a second, shorter appendage, ovate-lanceolate in outline and resting on a broad base to which it is narrowly attached. The movable digit is armed with seven teeth, the basal one being very large and wedge-shaped. Its three distal teeth are small and inconspicuous. The immovable digit has eight teeth, with the basal three longer than those distal to them. Teeth 6 and 8 are very small, flanking tooth 7 which is of a size comparable to that of the other terminal teeth. The **hypostome** (fig. 7) has a pair of pointed, slightly curved maxillary lobes which are inserted on the weakly projecting maxillae. Opposed to the maxillary lobes and inserted on the maxillae are a pair of hyaline secondary appendages which exceed the primary maxillary lobes in length. The maxillary plates are without fringes but have a pair of curved narrow terminal appendages extending forward under the chelicerae.

Male.—Not known.

Type Specimens.—Holotype female and paratype female on slides numbered 56415-1 and 2 respectively. Excised mandible in lateral position on slide No. 56415-2a. The holotype female will be deposited in the collection of the U. S. National Museum, Washington, D. C. Collecting data are as follows: McDonald Forest, near Corvallis, Oregon: Ex *Zootermopsis angusticollis* (Hagen); April 15, 1956. Collector Norman Tonks. Slides numbered 56415-2 and 2a will be placed in the collection at Oregon State College, Corvallis, Oregon.

Type Host.—*Zootermopsis angusticollis* (Hagen).

Type Locality.—McDonald Forest, near Corvallis, Oregon.

Optical Equipment.—Drawings were made and morphological data were collected with the aid of a Spencer phase contrast microscope equipped with dark medium contrast objectives and illuminated by a Spencer advanced laboratory illuminator.

SYSTEMATIC POSITION OF LOBOGYNIELLA

The similarity between this genus and *Lobogynium* Tragardh is striking. Not only do the lateral shields of *Lobogyniella* possess the ear-like lateral lobes but the arrangement and number of setae on the sternal and ventri-anal shields agree quite closely with those of *Lobogynium*. As regards the true nature of the ventri-anal and ventral marginal shield structure of *Lobogyniella* (Fig. 3)—that Tragardh's

Lobogynium rotundatum is not similar to *Lobogyniella* in shield morphology is questionable since the two genera agree in many other details. The structure of the lateral plates of *Lobogynioides* Tragarth places this genus in close association with both *Lobogynium* and *Lobogyniella*. *Lobogynioides*, however, has only a narrow suture separating the ventri-anal from the ventral marginal shields. In addition, the posterior ends of the ventral marginals are pointed and joined at the terminus, whereas the ventral marginals are rounded and do not meet in *Lobogyniella* or *Lobogynium*. The metasternal plates of *Lobogyniella* resemble those of *Lobogynioides* but not those of *Lobogynium* which, in addition to the sclerotized bar-like condition of the shield (Fig. 4), has a pair of anterior triangular areas which meet at the midline. However, *Lobogynioides* has two pairs of metasternal pores rather than one pair of pores and a pair of setae such as found in both *Lobogyniella* and *Lobogynium*. From the various differences and resemblances noted between these three genera, it appears to the author that *Lobogynium* and *Lobogyniella* represent a more primitive condition than that of *Lobogynioides*. One could arrive at such an assumption by considering only the presence or absence of the metasternal hair, and the extent of separation of the ventri-anal and ventral marginal plates. The presence of the metasternal hair in place of a second pore, as found in *Lobogyniella*, indicates an earlier stage of development than noted in those forms where the hair has been lost. A more advanced condition may be assumed in those forms having closely coalesced plates than those with plates widely separated.

REFERENCES

- Tragarth, Ivar, 1950. Studies on the Caelenopsidae, Diplogyniidae and Schizogyniidae (Acarina). Arkiv. for Zoologi, Ser. 2, bd. 1, nr 25: 361-451.

NOTES ON ALLODAMAEUS EWINGI BANKS

(ACARINA: ORIBATEI: BELBIDAE)

HAROLD G. HIGGINS AND STANLEY B. MULLIK
Dept. of Biology, University of Utah

The genus *Allodamaeus* was described by Banks (1947) from specimens taken from the forest of Duke University, Durham, North Carolina. This genus was placed in the family Belbidae near the genus *Gymnodamaeus*, and *Allodamaeus ewingi* was designated as the type species.

In 1952 the junior author collected some mites from Duke Forest, among which were several adult and immature specimens of this species. Inasmuch as Banks did not completely figure either adult or immature specimens, additional figures and notes based on topotypical specimens are presented in this paper.